

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A device for detecting the parameters of an aerosol, in an inhalation therapy device, comprising:
 - [[a.]] a transmitting means
 - i. which is disposed on a body that at least partially surrounds an aerosol ~~resting~~-area, and
 - ii. which emits radiation into said aerosol ~~resting~~-area ~~through a translucent material~~, wherein droplets from the aerosol adhere to the body in an area through which the radiation is transmitted from said transmitting means into said aerosol ~~resting~~-area; a translucent material disposed between said transmitting means and said aerosol area;
 - [[b.]] a first receiving means,
 - i. which is disposed on the body that at least partially surrounds said aerosol ~~resting~~-area,
 - ii. which is disposed in relation to said transmitting means so as to primarily receive transmission radiation that passes through the aerosol area in an unscattered manner, and
 - iii. which emits a first analysis signal that corresponds to the intensity of the received transmission radiation;
 - [[c.]] a second receiving means,
 - i. which is disposed on the body that at least partially surrounds said aerosol ~~resting~~-area,
 - ii. which is disposed in relation to said transmitting means so as to primarily receive scattered radiation, and
 - iii. which emits a second analysis signal that corresponds to the intensity of the received scattered radiation; and
 - [[d.]] a control means, to which the first and second output signals are supplied and which analyses the first and second output signals in order to determine the parameters of an aerosol in said aerosol ~~resting~~-area.

2. (Currently amended) A device for detecting the parameters of an aerosol according to claim 1, wherein the ~~transmitting means emits the radiation through~~ translucent material comprises a first translucent wall section of the body surrounding the aerosol ~~resting~~-area.
3. (Currently amended) A device for detecting the parameters of an aerosol according to claim 1, wherein the first receiving means receives the transmission radiation through a second wall section of the body surrounding the aerosol ~~resting~~-area.
4. (Currently amended) A device for detecting the parameters of an aerosol according to claim 1, wherein the second receiving means receives the scattered radiation through a third wall section of the body surrounding the aerosol ~~resting~~-area.
5. (Currently amended) A device for detecting the parameters of an aerosol according to claim 1, wherein the body surrounding the aerosol ~~resting~~-area is made of a translucent material.
6. (Currently amended) A device for detecting the parameters of an aerosol according to claim 1, wherein the body surrounding the aerosol ~~resting~~-area is made of a transparent material and the transmitting means is provided with a surface made of a said translucent material, through which radiation is emitted.
7. (Previously presented) A device for detecting the parameters of an aerosol according to claim 1, wherein the first receiving means is provided with a surface made of a translucent material, through which the radiation is received.
8. (Previously presented) A device for detecting the parameters of an aerosol according to claim 1, wherein the second receiving means is provided with a surface made of a translucent material, through which the radiation is received.

9. (Currently amended) A device for detecting the parameters of an aerosol according to claim 1, wherein the control means activates the transmitting means to emit the radiation into the aerosol ~~resting~~-area.
10. (Currently amended) A device for detecting the parameters of an aerosol according to claim 9, wherein the control means activates the transmitting means such that first time periods, in which the transmitting means emits radiation into the aerosol ~~resting~~-area, alternate with second time periods, in which the transmitting means does not emit radiation into the aerosol ~~resting~~-area.
11. (Previously presented) A device for detecting the parameters of an aerosol according to claim 9, wherein in the second time periods, the control means determines the proportion of ambient light in the output signals of the first and/or second receiving means.
12. (Previously presented) A device for detecting the parameters of an aerosol according to claim 11, wherein the control means makes use of the proportion of ambient light when analysing the output signals of the first and second receiving means.
13. (Previously presented) A device for detecting the parameters of an aerosol according to claim 12, wherein the control means forms the difference of the output signal of the first receiving means and the first ambient light proportion and/or the difference of the output signal of the second receiving means and the second ambient light proportion.
14. (Previously presented) A device for detecting the parameters of an aerosol according to claim 13, wherein the control means forms the quotient from the difference of the output signal of the second receiving means and the second ambient light proportion and the difference of the output signal of the first receiving means and the first ambient light proportion.

15. (Previously presented) A device for detecting the parameters of an aerosol according to claim 1, wherein the control means forms the quotient from the output signal of the second receiving means and the output signal of the first receiving means.
16. (Previously presented) A device for detecting the parameters of an aerosol, according to claim 1, wherein the radiation emitted by the transmitting means is infrared light.
17. (Currently amended) Inhalation therapy device having a device for detecting the parameters of an aerosol according to claim 1, wherein the body surrounding the aerosol ~~resting~~-area is a mouthpiece of the inhalation therapy device.
18. (Previously presented) Inhalation therapy device according to claim 17, wherein a nebuliser nozzle or a membrane nebuliser is provided.
19. (Previously presented) Inhalation therapy device according to claim 18, wherein the control means is connected with a compressor for the nebuliser nozzle or with an excitation device for the membrane nebuliser.
20. (Currently amended) A device for detecting the parameters of an aerosol, in an inhalation therapy device, comprising:
a translucent tube that at least partially surrounds an aerosol area including aerosol droplets or particles;
[[a.]] a transmitting device,
 - i. which is disposed on ~~a body that at least partially surrounds an aerosol resting area~~ the translucent tube, and
 - ii. which emits radiation into said aerosol ~~resting~~-area through ~~a the translucent material tube~~, wherein droplets from the aerosol adhere to the ~~body~~ translucent tube in an area

through which the radiation is transmitted from said transmitting device into said aerosol ~~resting~~-area;

[[b.]] a first receiving device,

- i. which is disposed on the ~~body~~-translucent tube that at least partially surrounds said aerosol ~~resting~~-area,
- ii. which is disposed in relation to said transmitting device so as to primarily receive transmission radiation that passes through the aerosol area in an unscattered manner, and
- iii. which emits a first analysis signal that corresponds to the intensity of the received transmission radiation;

[[c.]] a second receiving device,

- i. which is disposed on the ~~body~~-translucent tube that at least partially surrounds said aerosol ~~resting~~-area,
- ii. which is disposed in relation to said transmitting device so as to primarily receive scattered radiation, and
- iii. which emits a second analysis signal that corresponds to the intensity of the received scattered radiation; and

a controller, to which the first and second output signals are supplied and which analyses the first and second output signals in order to determine the parameters of ~~an~~ the aerosol in said aerosol ~~resting~~-area.